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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/645,868	08/22/2003	Jong-hoon Lee	1293.1857	8642

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EXAMINER	
LAMB, CHRISTOPHER RAY	
ART UNIT	**PAPER NUMBER**
2627	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/22/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/645,868	LEE ET AL.	
	Examiner	Art Unit	
	Christopher R. Lamb	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 November 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8,10-13,15,16,18 and 19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8,10-13,15,16,18 and 19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-8, 10-13, 15, 16, 18, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takasago et al. (US 4,830,290) in view of Kamiyama (US 6,341,113).

Regarding claim 1:

Takasago discloses a method of controlling a recording operation of an optical disc recording apparatus which records data to a recordable optical disc having a defect (column 2, lines 30-45), the method comprising:

based on a length of the defect, classifying the defect into a first category indicating that the data is normally recordable and a second category indicating that the data is not normally reproducible even though the data is normally recordable (column 3, lines 25-60: the first category is when the duration is less than T_1, the second when it is between T_1 and T_2);

detecting the defect while recording the data to the recordable optical disc (column 3, lines 25-60);

determining the length of the defect and a type of the defect based on the length of the defect (column 3, lines 25-60); and

as a result of the determining, if the defect corresponds to the first category, assuming that the data is normally recorded in a defect region and continuing recording of the data (column 3, lines 25-60: time less than T_1), or if the defect corresponds to the second category, further recording of the data recorded in the defect region in another region (column 3, lines 25-60: time between T_1 and T_2; it is re-recorded "in an alternate sector in the same track").

Takasago does not disclose:

"If the defect is detected, continuing recording of the data in the recordable disc while controlling a servo unit to hold a servo tracking by using a previous servo control value which is used before the defect occurs."

Kamiyama discloses: if a defect is detected, continuing recording of the data in the recordable disc while controlling a servo unit to hold a servo tracking by using a previous servo control value which is used before the defect occurs (column 1, lines 10-25).

Kamiyama discloses that this is necessary, because it is impossible to generate an appropriate tracking signal otherwise (column 1, lines 10-20).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Takasago wherein If the defect is detected, continuing recording of the data in the recordable disc while controlling a servo unit to hold a servo tracking by using a previous servo control value which is used before the defect occurs, as taught by Kamiyama.

The motivation would have been to generate an appropriate tracking signal, keeping the laser on-track, as taught by Kamiyama.

Regarding claim 2:

Takasago discloses: classifying the defect into a third category indicating that the data cannot be normally recorded and the defect causes a servo error (column 3, lines 25-60: time greater than T_2); as a result of the determining, if the defect corresponds to the third category, stopping the recording operation (column 6, lines 40-50).

Regarding claim 3:

In Takasago, the recordable optical disc is a recordable compact disc (Takasago does not use this term, but it is clear from Takasago's description in column 1 that Takasago's disc is a recordable compact disc).

Regarding claim 4:

Takasago does not disclose that the recordable optical disc is a recordable digital video disc.

The Examiner takes Official Notice of the existence of recordable digital video discs.

It would have been obvious to one of ordinary skill in the art to use Takasago's method with a recordable digital video disc, because the Examiner takes Official Notice of the existence of recordable digital video discs.

The motivation would have been to control defects on these type of discs as well.

Regarding claims 5-7:

All elements positively recited have already been identified with respect to claims 1-4.

Regarding claims 8, 10, and 11:

These are apparatus claims corresponding to method claims 1-4. Takasago in view of Kamiyama inherently includes the processing unit, defect detection unit, defect type determination unit, etc., necessary to implement the method and thus meets these claims as well.

Regarding claim 12:

Takasago discloses a controller (Fig. 1: 30) and thus Takasago in view of Kamiyama inherently includes a program executed by a processor to record data. All other elements of this claim have already been discussed with regards to earlier claims.

Regarding claim 13:

Most elements of this claim have already been discussed with regards to earlier claims. In Takasago the first reference length is a maximum length of the defective region where a servo status is stable and data is readable without any additional operation of the optical disc recording apparatus after data is recorded (the T_1 threshold is one where the off-track is not considered to be severe enough to require writing in a different region: column 3, lines 1-60).

Regarding claim 15:

In Takasago the second reference length is a maximum length of the defective region where a servo status is stable, but errors occur when the data is read after being recorded (the servo is not considered "off-track" to the point where the recording

operation has to be stopped, but the data must be rewritten in an alternate sector on the track: column 3, lines 1-60).

Regarding claims 16, 18, and 19:

All elements positively recited have been discussed with regards to earlier claims. No further elaboration is necessary.

Response to Arguments

3. This section is in response to Applicant's arguments filed November 2nd, 2006.

4. Applicant's arguments with respect to the objection to the drawings have been fully considered and are persuasive. The objection to the drawings has been withdrawn.

5. Applicant's arguments with respect to the rejection under 35 U.S.C. 101 have been fully considered and are persuasive. The rejection of claim 12 under 35 U.S.C. 101 has been withdrawn (but note that this claim remains rejected under 35 U.S.C. 103).

6. Applicant's arguments with regards to the 35 U.S.C. 103 rejection of all claims over Takasago in view of Kamiyama have been fully considered but they are not persuasive.

Applicant makes three arguments. Each will be discussed separately.

7. The first argument is made with reference to independent claim 1.

Applicant notes that the claim recites classifying the defect into "a second category indicating that the data is not normally reproducible even though the data is normally recordable."

Applicant notes that the Examiner relies upon, in Takasago, the time period between T1 and T2 as corresponding to this element of the claim.

Applicant then argues that Takasago "does not discuss reproducibility with respect to this time period."

However, Takasago does discuss reproducibility with respect to this time period. When the time interval T1 is exceeded (but not T2), a read-after-write operation is performed (column 3, lines 25-40). The read-after-write operation is discussed earlier (column 1, lines 45-55): in this operation, the apparatus checks "whether the recorded data can be properly read out."

Thus, if the defect is longer than time T1 but shorter than time T2, Takasago classifies it into a category indicating that the data is not normally reproducible even though the data is normally recordable (Takasago requires one further operation – the read-after-write test – to confirm this, but since that test is triggered by the defect length, Takasago nonetheless classifies it into this category based on the defect length).

8. Applicant's second argument is made with reference to claim 14.

The Examiner notes that claim 14 has been cancelled. However, the language of the original claim 14 has been added to amended claim 13: the Examiner presumes this argument was meant to be applied there.

Applicant notes that the claim "recites that the first reference length is a maximum length of the defective region where a servo status is stable and data is readable without any additional operation of the optical disc recording apparatus after data is recorded."

Applicant states that "Takasago teaches that time T1 is shorter than a time necessary to cause off-track due to abnormality in optical disc apparatus."

Applicant then argues that Takasago only teaches that T1 is shorter, and not that it is the maximum time as required by the claim.

That it is the maximum time is implicit. When the time T1 is exceeded, the apparatus must perform additional operations, including re-recording data in an alternate sector. It is apparent from Takasago, then, that the time T1 should be as high as possible: the maximum time that doesn't produce an error, so as to avoid unnecessarily performing these additional operations. Takasago describes it as a time "shorter" than the time that produces an error, rather than the "maximum" time that won't produce an error, only because as Takasago indicates (column 3, lines 50-60), the maximum time varies from apparatus to apparatus. Therefore there is no one time that is a maximum for all apparatuses. Nonetheless, Takasago picks the time based upon the variations in apparatuses, and thus based upon the teachings of Takasago, the time T1 selected is the maximum time for the most extreme case, which is enough to meet the claim.

Applicant also argues that Takasago "does not determine time T1 based upon servo status." This is not the case: Takasago measures the tracking error signal to determine this time (column 3, lines 5-10). The tracking error signal is a measure of servo status.

9. Applicant's third argument is directed at claim 15 and time T2 of Takasago. It is otherwise similar to Applicant's second argument: Applicant argues Takasago does not teach "a maximum time and servo status" with regards to time T2.

This argument has not been found persuasive for the same reasons applied to the second argument above. No further elaboration is necessary.

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

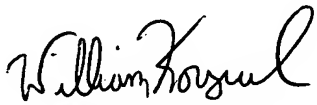
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher R. Lamb whose telephone number is (572) 272-5264. The examiner can normally be reached on 8:30 AM to 6:00 PM Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (571) 272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CRL 1/11/07



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